

Application Serial No. 09/675,992

**REMARKS**

1. Applicant thanks the Examiner for the Examiner's comments which have greatly assisted Applicant in responding.

2. **Claim Rejections - 35 U.S.C. §103**

The Examiner rejected Claims 19 and 21-25 under 35 U.S.C. §103(a) as being unpatentable over *Basch et al* (US 6,119,103) in view of *French et al* (US 6,282,658.)

Applicant respectfully traverses.

The claimed invention concerns a computer-implemented method for processing a transaction in real-time over a client-server network. One aspect of the invention receives a transaction request, derives a transaction score for the request, and based on the score, does one of three things: terminates the transaction, proceeds with the transaction, or obtains additional information from the customer, if needed. Before obtaining additional information, it is determined which question set to use, based on calculating a probability of non-attrited fulfillment of the transaction after presentment of the chosen question set, which calculation is based on two factors. The two factors are a metric for the value of additional data and the likelihood of interaction termination. The value of the question set is based on current information known about the particular user.

Suppose, for example, a customer desires to make a purchase at merchant's store. The merchant, by way of the invention, processes the customer's transaction. A transaction score is generated and one of three outcomes are possible. The transaction is terminated. And the customer cannot make the purchase by way of that transaction. The transaction is approved and the customer successfully made the purchase. Or, the transaction continues to be

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processed. It is then determined that either additional information is needed to complete the transaction or not. If not, the transaction again can be terminated or approved. If additional information is required, an optimized set of questions is presented to the customer, such that the likelihood that the customer will answer the questions and complete the transaction is highest. The customer and the merchant are both satisfied.

Regarding Claim 19, Applicant has canceled without prejudice Claims 20 and 21 and incorporated the respective limitations of each into independent Claim 19, to further clarify the invention. In addition, the limitation, determining the probability of non-attributed fulfillment of the transaction, was further clarified, and is discussed in further detail hereinbelow.

By the Examiner's admission (page 7), Basch does not disclose obtaining additional data comprising: determining, for each of a plurality of follow-up question sets, a probability of non-attributed fulfillment of the transaction after presentment of the follow-up question set, [said determining the probability] based on a metric for the value of additional data[, using information provided by the question set, the transaction information, and the customer's profile,] and [said determining the probability] based on a likelihood of interaction termination; and selecting a follow-up question set, from among the plurality of follow-up question sets, with the greatest probability of non-attributed fulfillment of the transaction.

French discloses simply requesting and testing the user's input of a second type of information that is preferably non-wallet type information. (See col. 13, lines 35-37.) However, nowhere in French is it disclosed or suggested obtaining additional data comprises: determining, for each of a plurality of follow-up question sets, a probability of non-attributed fulfillment of the transaction after presentment of the follow-up question set, said determining the probability based on a metric for the value of additional data, using information provided by the

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question set, the transaction information, and the customer's profile, and said determining the probability based on a likelihood of interaction termination; and selecting a follow-up question set, from among the plurality of follow-up question sets, with the greatest probability of non-attributed fulfillment of the transaction.

In addition, French is only concerned with authentication and can be viewed as teaching away from the invention. To wit, col. 1, lines 48-50, distinguish how the French teachings are directed to authentication and not the authorization of a transaction:

Various non-password schemes exist that perform some level of authentication before authorizing transactions or permitting access to data.

French is solving a different problem, improving authentication by employing more than one-level authentication. See col. 1, lines 56-57:

For various reasons, one-level authentication schemes are not totally reliable.

The Examiner's assertion that Jobber disclose determining, for each of a plurality of follow-up question sets, a probability of non-attributed fulfillment of the transaction after presentation of the follow-up question set, said determining the probability based on a metric for the value of additional data, using information provided by the question set, the transaction information, and the customer's profile, and said determining the probability based on a likelihood of interaction termination; and selecting a follow-up question set, from among the plurality of follow-up question sets, with the greatest probability of non-attributed fulfillment of the transaction is mistaken.

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The claimed invention is clear that for the particular transaction and for the particular customer, the following are determined, *i.e.* calculated (Specification, page 19, lines 7-12, emphasis added):

... the information value prediction model **uses the information obtained to create the fraud score to determines [sic] 146 the value of the missing information represented by the question set. In addition, a friction model, using similar information to that obtained by the transaction-scoring model, determines 148 the attrition cost of the question set. An attrition cost is a measure of the likelihood that presenting a question set to a user will cause that user to terminate the interaction.**

On this alone, the claimed invention is distinguished from any of the cited references alone or in combination. Nowhere do any of the cited references teach or suggest, alone or in combination, using the same information that is obtained for a particular user to create that user's fraud score and determining the value represented by the question set.

In addition, looking to the Specification, it is very clear what is meant by these specific determinations. See Specification, page 22, line 16 through page 23, line 12, reproduced below for convenience (emphasis added):

The information value prediction model 106 can exist in a variety of embodiments. In one embodiment, each question set has an average value. The model 106 can be trained by taking a large set of transactions and by scoring the likelihood of fraud of each transaction with and without the information provided by a particular question set. **The model obtains the difference between scores with and without information provided by a particular question set and averages the distances over the set of transactions to obtain a measure of the value of the information provided by a particular question set. This process is repeated for each question set.**

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In another embodiment, the model 106 determines the value of the question set based on both the information provided by the question set and based on transaction information. The model 106 is trained by taking broad categories of transactions, e.g., by amount and SIC codes, and for each of these categories, scoring each transaction with and without question set information to determine the average difference in score. In segmenting the transactions into categories, it is preferable if each category has statistical robustness, i.e., each category has a statistically large number of transactions.

In still another embodiment, the model 106 determines the value of the question set based on the information provided by the question set, transaction information, and the user's profile. **The model 106 is trained by using all the information that is used to score the transaction.** Again, each transaction is scored with and without question set information to allow the model to determine the value of the question set information.

Jobber teaches away from the invention as it is solving a different problem. Jobber is concerned with minimizing non-response (see page 1, middle of paragraph 2):

This would allow a researcher to tailor the design of his mail survey in order to minimize non-response within a given budget.

Also, on page 1, paragraph 2, a few sentences below:

According to Yu and Cooper, the last alternative is preferable because it attempts to eliminate non-response bias entirely.

The claimed invention is not solving the problem of eliminating non-response bias. It is calculating a completely different value, the probability of non-attrited

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fulfillment of the customer's transaction by using information about the particular customer and using, *inter alia*, a metric for the value of the additional data and the attrition cost. It is not trying to eliminate the attrition. These are two entirely different concepts.

According to MPEP 2143 Basic Requirements of a *Prima Facie* Case of Obviousness, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant has just shown that the cited references alone or in combination do not teach or suggest all the claim limitations. In addition, there is no motivation to combine the references, because they simply are silent at least on determining the value of the question set. Also, there can be no reasonable expectation of success because the cited references are silent at least on determining the value of the question set. Hence, on this point alone, a *prima-facie* case of obviousness has not been established. Claim 19 and the dependent Claims are deemed to be in condition for allowance. Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

### 3. Claim Rejections - 35 U.S.C. §102

The Examiner rejected Claim 36 under 35 U.S.C. §102(e) as being anticipated by *Basch, et al.*

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Independent Claim 36 was amended similarly as Independent Claim 19. As well, Claim 37 was canceled without prejudice and its limitations were incorporated into Claim 36.

In view of this amendment to Claim 36 and of the discussion hereinabove for Claim 19, Claim 36 is deemed to be in condition for allowance. Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §102.

4. It should be appreciated that Applicant has elected to amend the Claims solely for the purpose of expediting the patent application process in a manner consistent with the PTO's Patent Business Goals, 65 Fed. Reg. 54603 (9/8/00). In making such amendment, Applicant has not and does not in any way narrow the scope of protection to which Applicant considers the invention herein to be entitled. Rather, Applicant reserves Applicant's right to pursue such protection at a later point in time and merely seeks to pursue protection for the subject matter presented in this submission.

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**CONCLUSION**

Based on the foregoing, Applicant considers the present invention to be distinguished from the art of record. Accordingly, Applicant earnestly solicits the Examiner's withdrawal of the objections and rejections raised in the above referenced Office Action, such that a Notice of Allowance is forwarded to Applicant, and the present application is therefore allowed to issue as a United States patent. The Examiner is invited to call to discuss the response.

Respectfully submitted,

A handwritten signature in cursive script that reads "Julia A. Thomas".

Julia A. Thomas

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